

Nacogdoches Amateur Radio Club

2017 CLUB OFFICERS

Pres: John Cechin - W5FWR

Vice Pres: RM Blake - K5AGE

Sec/Treas: Army Curtis - AE5P

Visit our web site at

<http://w5nac.com/>

MISSION STATEMENT

The Mission of the Nacogdoches Amateur Radio Club is to support and promote Amateur Radio by public service, offering training to unlicensed interested parties and licensed Amateurs, mutual support of other Amateurs, engaging events that promote Amateur radio to the general public and other Amateur radio operators, and continuing fellowship by regularly scheduled organized meetings and events and having fun.



FEBRUARY MINUTES

The February meeting of the Nacogdoches Amateur Radio Club (NARC) was held as scheduled on February 1st. **President John W5FWR** opened the meeting at 7:00 p.m. in the Parish Hall of Christ Episcopal Church. Sixteen members were present. Each person present introduced them self. Minutes of the previous meeting were approved as published. The Treasurer's report was read.

Army AE5P reviewed the current plans for the Shuttle Columbia Special Event Station scheduled

for the weekend of February 4-5. Club members are encouraged to operate from their home stations for the event, using the special call of K5C.

Show and Tell:

RM K5AGE presented a synopsis of the book "Contact Sport: A Story of Champions, Airwaves, and a One-Day Race around the World" by J.K. George, the story of the 2014 World Radiosport Team Championship held in Eastern Massachusetts. RM brought his copy of the book with him for members to browse.

Meeting closed at 7:34 p.m.

Program:

Tim KE5PQL presented a program and

demonstration of the Outernet, which uses a narrow bandwidth channel on geostationary satellites to bring news, messages, and information to areas of the world not served by internet. More info is available at <https://www.raspberrypi.org/blog/outernet/>

DUES ARE DUE

That time of year again. 2017 Club dues are due and payable. \$24 covers all licensed hams in a family and can be paid to the Secretary-Treasurer at the club meetings, the weekly lunches, the VE testing sessions, or mailed to him at home.

MY 2 CENTS FOX WILLY ROGER

MARCH 2017

LIVE WELL, LAUGH
OFTEN, LOVE MUCH!!!

Let me know, what do you think?

KEEP YOUR POWER DRY
AND YOUR HEAD BELOW
THE HORIZON.

HAPPY TRAILS

John Cechin W5FWR
Carrots4ever2@gmail.com

FROM THE VICE PRESIDENT



Hello my fellow radio operators!

We have a great opportunity here to show our presence in the community, volunteer in a much needed way, and have FUN! We have been asked by the founder of the "Old Stone Fort Bicycle Ride", Ray Mitchum, to help with communications for the second annual running of this event.

This event will not be anywhere near the scale of Pineywoods Purgatory, but our skills and help are much needed and appreciated. Also, being that the scale is much smaller than purgatory, the event should be bit more relaxed. A free lunch will be provided. Another thought: this event could grow to be much larger in the future and it would be nice to have NARC part of the team from the beginning. I predict a great partnership in the future for us.

The event date is March 18th. They have 3 courses of 25, 36, and 63 miles (40km, 58km and 100km), and they are expecting 130 riders. **My apologies for the short notice.**

I am planning on driving the courses in the next few days to get an idea of where we might best be located and how many operators we need at minimum.

For detailed maps of the courses, with options for export to GPS as a .gpx

file, see the hyperlinks below.

25mile [25 mile course, with export to .gpx](#)

36mile [36 mile course, with export to .gpx](#)

63mile [63 mile course, with export to .gpx](#)

Concluding, your help will be appreciated and I think this event will be a lot of fun. Let me know if you would like to help or you have any comments on the matter. I am open for any comments. You can email me at K5AGE@fastmail.com or call me at my office and ask for Rm, 936-564-0433.

73 de RM Blake K5AGE
k5age@fastmail.com

NOTES FROM OUR EC

I just opened up the February 2017 EC Corner to look over something and gee what did I start with last month, Tornadoes. Tornadoes are up in the news again. Weather during Presidents day weekend was rough in a few places, San Antonio had 4 tornadoes and the Burkburnet/Wichita Falls area had at least one. Thankfully there was no loss of life in San Antonio, just property damage and as I haven't heard anything from friends and family in the Wichita Falls area, I suspect just some property damage. It is only February. Wonder what the rest of the year and the regular season has in store for us.

Rusty called up an exercise Feb 16th to utilize the talk around frequency following the regular SkyWarn net. He explained it very well and I hope I can do it justice for the rest of the club.

What is the talk around frequency and why should we use it? What, is simple enough, it is the output frequency, the one we listen to on any repeater. Locally it is 146.840, 147.320 and 444.050 MHz no tone, no offset, it is a simplex frequency.

Why use it? If we lose the repeater due to some catastrophic event (4 tornadoes) we can still talk. We have 3 repeaters and they are located far enough apart that an event at one shouldn't affect the others. But what if? Never, say never.

If we lose one repeater, Plan B usually is to go to another repeater, but what is Plan C or D? Even if another ham has not programmed the talk around frequency into their radio, if someone calls on the talk around they will at least be able to hear what is going on and either move to or program the radio for the talk around frequency.

Don't forget the usual concerns when working

with VHF or UHF simplex, antenna, location, power. I checked into the weather net Thursday, from the office via my handheld. I wasn't able to check into the exercise for various reasons. I could hear Rusty repeat the roll call but could not hear any other station, including Army when it was his turn. Various folks were able to contact Rusty and Army. Bill KT5TE was able to get in to town. My handheld, 5 watts and a rubber duck antenna-I don't expect I would have been much help. Different radio, different power, different antenna, and different location: a different outcome.

So let's be lazy here. Please take some time to program into your radios 146.84, 147.32, 146.52 146.46 and if your radio can do it 444.050, no tone, no offset-simplex.

FLDigi, FLmsg, AndFIMsg Let's tie up the loose ends and close out NBEMS for now. The only thing left is Configuration and this may take a little longer than

anticipated. Again, let me remind you, I am only using FLDigi as a digital message device and not for rig control. That is an area I haven't attempted.

FLmsg:

Open FLmsg and click on the Config tab and set up your Personal data, and set up Date Time. It's self-explanatory and pretty straight forward. There are 3 other selections, Files, Radiogram and Socket. Use the defaults there, too.

FLDigi

Open FLDigi and click on the Config tab. There are a LOT of things to punch push and prod. Under Operator, the boxes are pretty straight forward. Locator, use maidenhead gridsquare. Under Modems, the MT-63 click on 8 bit extended characters. Go to the MISC tab and click on NBEMS, there are 5 click boxes click them and make sure that the path to the flmsg.exe file is located in that box. Make sure the RXID button is pushed on the front page. It's in the

upper left hand corner. It activates the RXID which in turn causes the software to change to the respective digital mode. During your initial setup, make notes on what you changed in case you have to reverse your work.

AndFIMsg

Remember this is for Android devices (phone or tablet). Open AndFIMsg and click on the 3 dots in the upper right hand corner and then open preferences, check the box for Use custom. Mode List, select the modes you want to use. Those will be searched when the software hears the RXID tones. Modem check the for SLOW CPU. IDs check the End of XMIT RXID, uncheck searches passband, allow errors set to high, MT-63 check the boxes for the following, 8 bit extended, long receive transmit lower start tone, transmit upper start tone, leave allow manual tuning off and set tone duration for 6 seconds. Back up to the modem screen and check both the RX RXID and TX RXID. Pull the

quelch all the way down. This will be important if you are running Olivia on HF.

We have scratched the surface on NBEMS, FLDigi and its variants. Go listen in to the psk folks, listen to the VOA Radiogram and watch out for the nets. You may have to pass some traffic.

References:

fldigi

<https://sourceforge.net/projects/fldigi/files/>

AndFLmsg and TIVAR
<https://sourceforge.net/projects/fldigi/files/AndFlmsg/>

NBEMS:

www.arrl.org/nbems

73 de John Chapman
KC5MIB
jlchapman2@juno.com

VE TESTING

Our next VE testing is scheduled for **Wednesday March 15 at 7:00 p.m.** in the Parish Hall of Christ Episcopal Church.

Applicants should bring a picture ID, the original and a copy of their current Amateur license, the original of any CSCE's and \$15 to cover the cost of the exam(s). Correct change is always very much appreciated. 73 de AE5P

email: ae5p@arrl.net

CLUB NETS

Remember to join us each week for the nets sponsored by NARC. Each **MONDAY** is the **NARC ARES/RACES** net, at 8:00 p.m. on the club's 146.84 repeater (PL 141.3). Second, on **THURSDAY** evenings at 8:00 p.m. is the **Deep East Texas Skywarn Emergency Weather Net** on the 147.32 repeater (PL 141.3). Please join us for one or both.

NEXT MEETING

The next meeting will be **Wednesday March 1st at 7:00 p.m.** in the Parish Hall of Christ Episcopal Church. A program is planned.

VE TEST RESULTS

Congratulations to Scott Austin of Pollok who passed his Technician exam at the February VE testing session.

SAN JACINTO DAY SPECIAL EVENT STATION

The San Jacinto Day Special Event Station is a new event for NARC which we hope will become an annual affair. We will be using the special call of K5T for the event. Members are encouraged to operate from their home stations for the event, which will be held April 21 - 23, Friday, Saturday and Sunday.

If you wish to operate from your home station for this event, please contact the Club Secretary and advise what band/mode you want to use

and your preferred operating times.

San Jacinto Day is the celebration of the Battle of San Jacinto on April 21, 1836. It was the final battle of the Texas Revolution where Texas won its independence from Mexico.

UPCOMING**EVENTS OF NOTE**

Mark your calendars for the following events coming up in the next few months. Full information on these events and much more can be found at <http://www.hornucopia.com/contestcal/contestcal.html>

ARRL International DX Contest - SSB

Mar 4 - 5

<http://www.arrl.org/arrl-dx>

CQ WW WPX Contest - SSB

Mar 25 - 26

<http://www.cqwp.com/rules.htm>

San Jacinto Day Special Event Station K5T

Apr 21 - 23

<http://www.w5nac.com>

CQ WW WPX Contest - CW

May 27 - 28

<http://www.cqwp.com/rules.htm>

ARRL June VHF**Contest**

June 10 - 11

<http://www.arrl.org/june-vhf>

ARRL Field Day

June 24 - 25

<http://www.arrl.org/field-day>

IARU HF World**Championships**

July 8 - 9

<http://www.arrl.org/iaru-hf-championship>

NAQP RTTY

July 15 - 16

<http://www.ncjweb.com/NAQP-Rules.pdf>

CQ Worldwide VHF

July 15 - 16

<http://www.cqww-vhf.com/>

NAQP CW

July 14 - 15

<http://www.ncjweb.com/NAQP-Rules.pdf>

NAQP SSB

August 19 - 20

<http://www.ncjweb.com/NAQP-Rules.pdf>

ARRL September VHF

Sept 8 - 10

<http://www.arrl.org/september-vhf>

CQ WW DX RTTY

Sept 23 - 24

<http://www.cq-amateur-radio.com/>

TEXAS QSO Party

Sept 23 - 24

<http://www.txqp.net/>

CQ WW DX SSB

Oct 28 - 29

<http://www.cqww.com/rules.htm>

ARRL Sweepstakes**CW**

Nov 4 - 6

<http://www.arrl.org/sweepstakes>

ARRL Sweepstakes**SSB**

Nov 18 - 20

<http://www.arrl.org/sweepstakes>

CQ WW DX CW

Nov 25 - 26

<http://www.cqww.com/rules.htm>

Basic Filters - Part 3

by

Thomas Atchison, W5TV

In Basic Filters, Part 2, we discussed the RC low pass filter shown in Fig. 1.

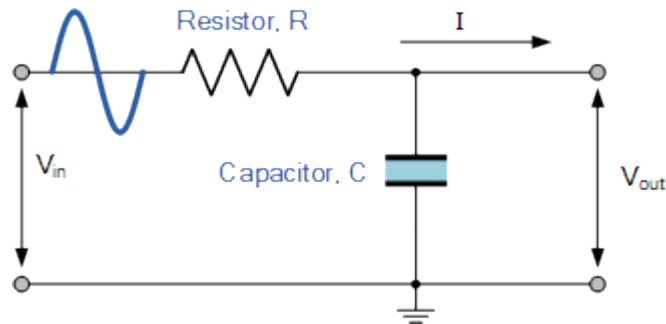


Fig. 1.

We discussed the fact that as the input frequency increased, the output voltage, V_{OUT} , would decrease. The cutoff frequency of an RC filter as shown in Fig. 1 is defined to be the frequency at which the capacitive reactance, X_C , is equal to the resistance, R . From Basic Filters, Part 2 we recall that

$$V_{out} = V_{in} \frac{X_C}{Z}, \quad (1)$$

where $X_C = \frac{1}{2\pi fC}$ and

$$Z = \sqrt{R^2 + X_C^2}. \quad (2)$$

Therefore, the cutoff frequency, f_c , occurs when

$$Z = \sqrt{R^2 + X_C^2} = \sqrt{2R^2} = \sqrt{2}R. \quad (3)$$

This means that equation (1) becomes

$$V_{OUT} = V_{IN} \frac{X_C}{Z} = V_{IN} \frac{R}{\sqrt{2}R} = V_{IN} \frac{1}{\sqrt{2}} \cong 0.707 V_{IN}. \quad (4)$$

That is, the output voltage is reduced to 70.7% of the input voltage.

Recalling that the capacitive reactance is given by

$$X_C = \frac{1}{2\pi fC} \quad (5)$$

and $X_C = R$ we see that

$$R = \frac{1}{2\pi f_c C} \quad (6)$$

Solving for f_c we have

$$f_c = \frac{1}{2\pi RC} \quad (7)$$

The frequencies below f_c are said to be in the passband of the filter and those frequencies above f_c are said to be in the stopband of the filter.

Consider the following example. If $C = 0.000470 \mu F = 0.000470 \times 10^{-6} F$ and $R = 47$ ohms, then

$$f_c = \frac{1}{2(3.14159)47(0.00047 \times 10^{-6})} = 7.2 \times 10^6 \text{ Hertz or}$$

$$f_c = 7.2 \text{ MHz.}$$

In this situation those frequencies below 7.2 MHz are in the passband of the filter and those frequencies above 7.2 MHz are in the stopband of the filter.

The graph in Fig. 2 shows a plot of the frequency response of a lowpass filter.

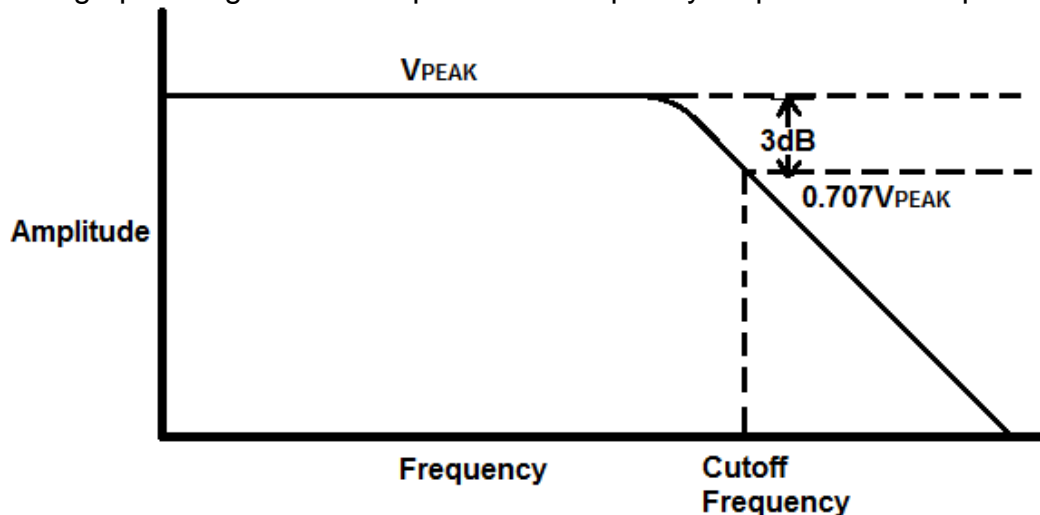


Fig 2

As this plot show, the response of the filter to increasing frequency decreases over a range of frequencies. The selection of the cutoff frequency to be the frequency at which the amplitude of the output voltage is reduced to 70.7% of the input voltage may seem arbitrary; however, this is a significant reduction in filter response. The part of the response curve that represents a decrease in amplitude is usually called the filter rolloff. A filter is referred to as a **sharp** filter if this rolloff is extremely steep.

I will address the nature of this rolloff and how it might be improved in the next article.